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**Block**

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(54) **ROTARY BLADE REPLACEMENT APPARATUS AND METHOD**

(71) Applicant: **Fiskars Brands, Inc.**, Madison, WI (US)

(72) Inventor: **Andrew P. Block**, Middleton, WI (US)

(73) Assignee: **Fiskars Brands, Inc.**, Madison, WI (US)

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(51) **Int. Cl.**

| | |
|---|---|
| ***B26D 7/26*** | (2006.01) |
| ***B26B 29/02*** | (2006.01) |
| ***B67B 7/46*** | (2006.01) |
| ***B26B 7/00*** | (2006.01) |
| ***B65B 69/00*** | (2006.01) |
| ***B26D 1/20*** | (2006.01) |
| *B26B 27/00* | (2006.01) |

(52) **U.S. Cl.**

CPC ..... ***B26D 7/2621*** (2013.01); ***B26D 1/205*** (2013.01); *B26B 27/005* (2013.01); *B26B 29/02* (2013.01); *B26D 7/2628* (2013.01); *B65B 69/0033* (2013.01); *B67B 7/30* (2013.01); *Y10T 29/4973* (2015.01); *Y10T 29/53961* (2015.01)

(58) **Field of Classification Search**

CPC .... B26D 7/2621; B26D 7/2628; B26D 1/205; Y10T 29/53961; Y10T 29/4973; B26B 27/005; B26B 29/02; B65B 69/0033; B67B 7/30

USPC ..... 29/402.01, 402.08, 281.1, 244–280; 7/113, 158; 30/93, 102, 2, 125; 83/954

See application file for complete search history.

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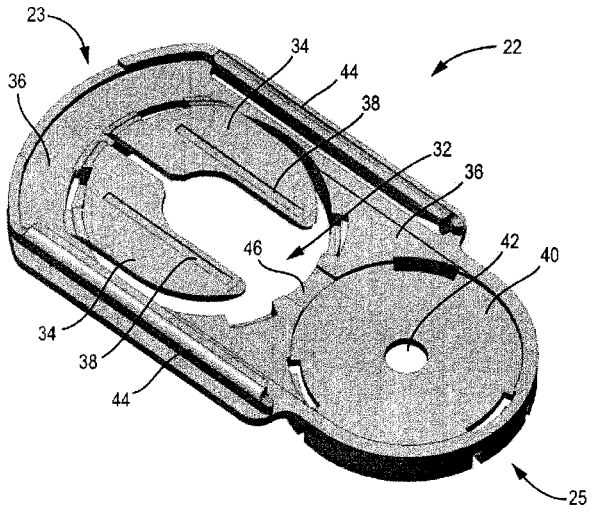
*Primary Examiner* — David Bryant
*Assistant Examiner* — Bayan Salone
(74) *Attorney, Agent, or Firm* — Foley & Lardner LLP

(57) **ABSTRACT**

An apparatus for presenting a replacement blade from a cartridge includes a body and a carrier. The body includes a first side and a second side opposite the first side, a first position and a second position laterally spaced from the first position, and a trough aligned with the second position. The carrier is slidably coupled to the body and movable between the first position and the second position. When the carrier is in the first position, the carrier couples to a blade if a blade is present in the first position. When the carrier is in the second position, the carrier decouples from the blade such that the blade is deposited in the trough, if a blade is coupled to the carrier. When the carrier moves from the first position to the second position, the carrier causes a blade to move from the first position to the second position.

**21 Claims, 7 Drawing Sheets**



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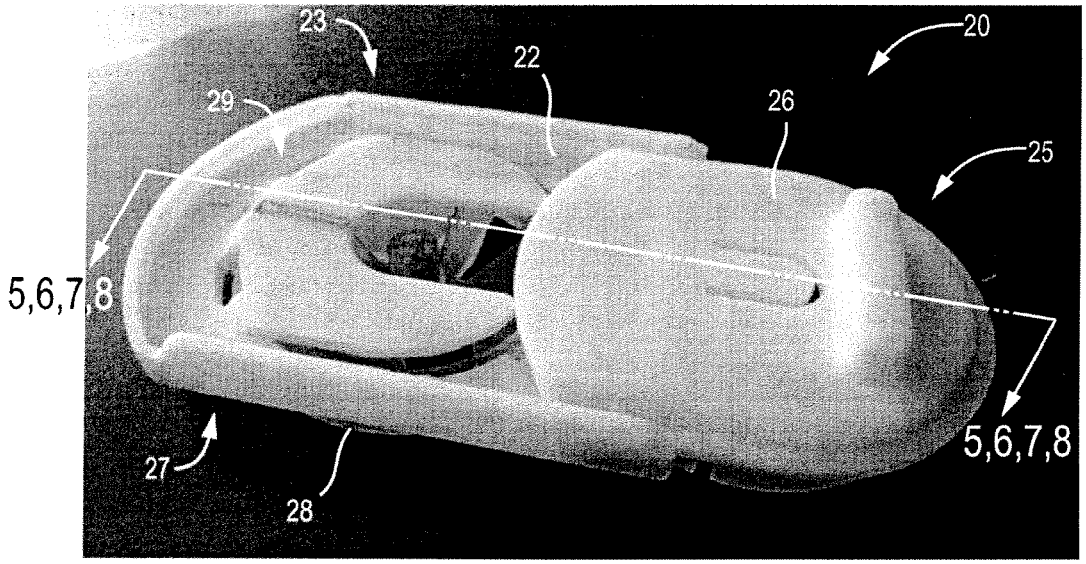
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FIG. 1

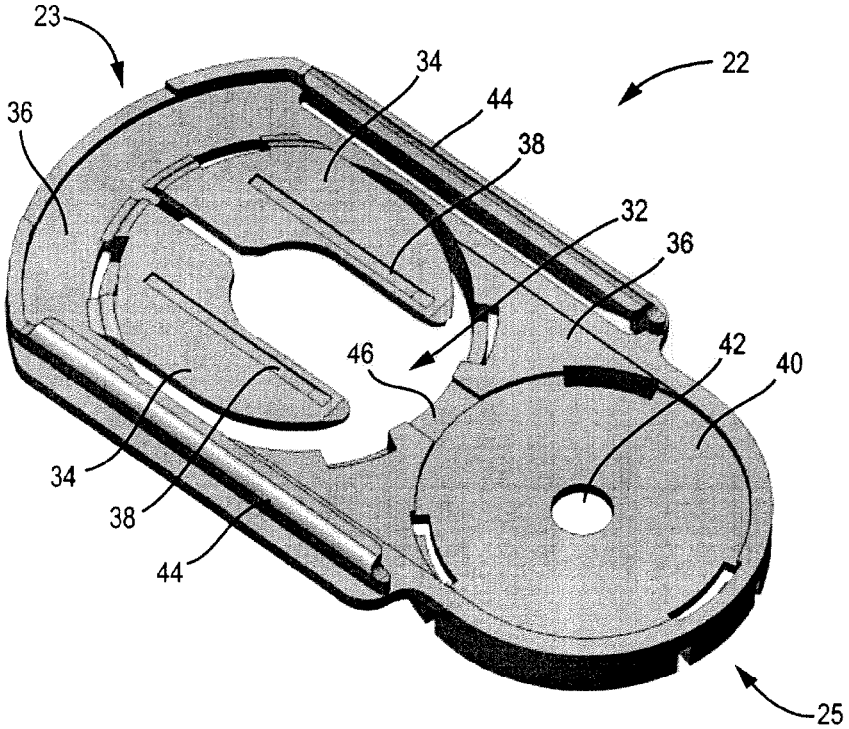
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FIG. 2

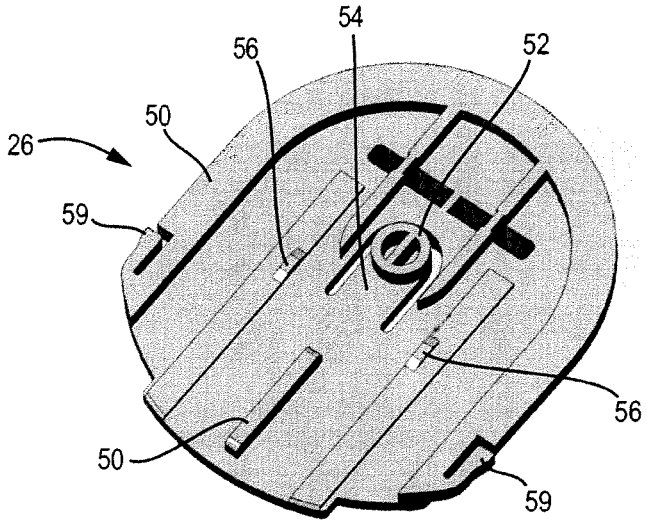


FIG. 3

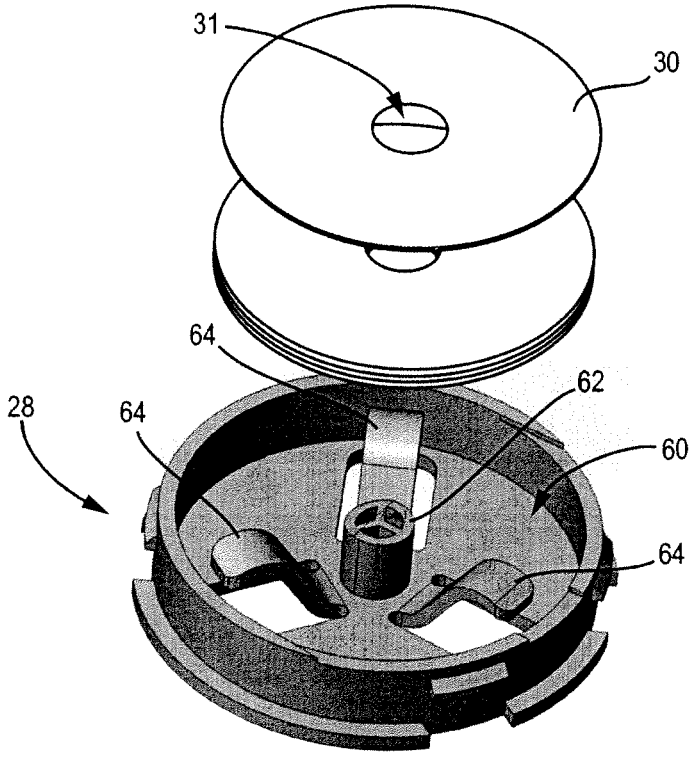


FIG. 4

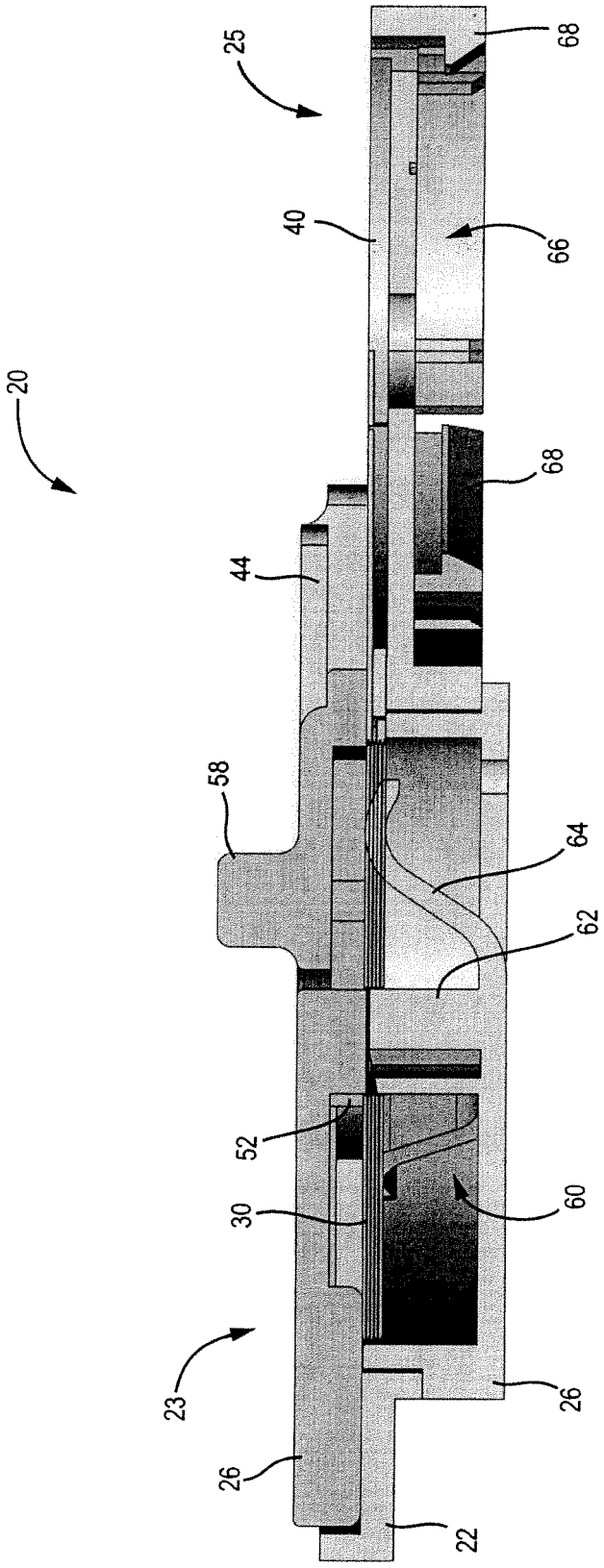


FIG. 5

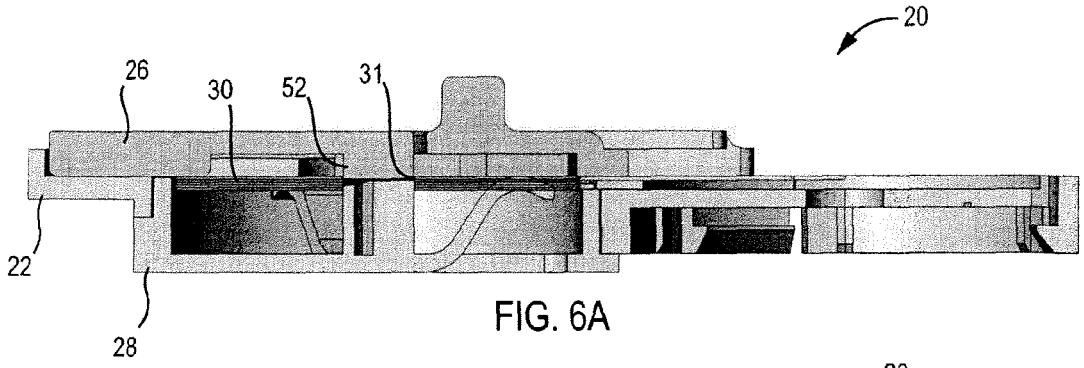


FIG. 6A

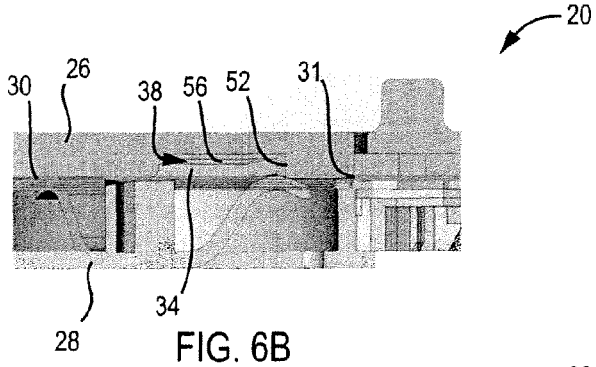


FIG. 6B

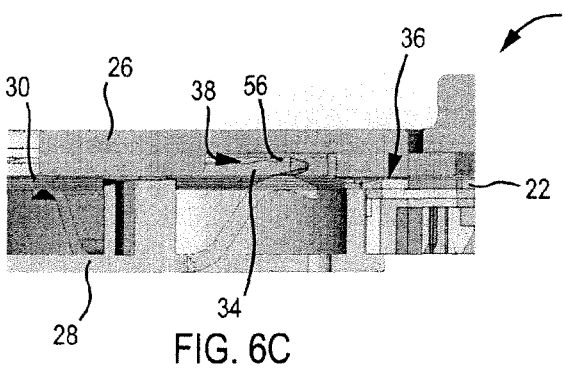


FIG. 6C

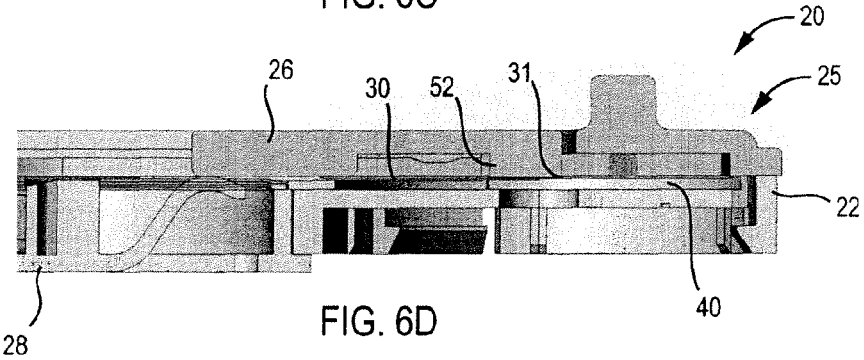


FIG. 6D

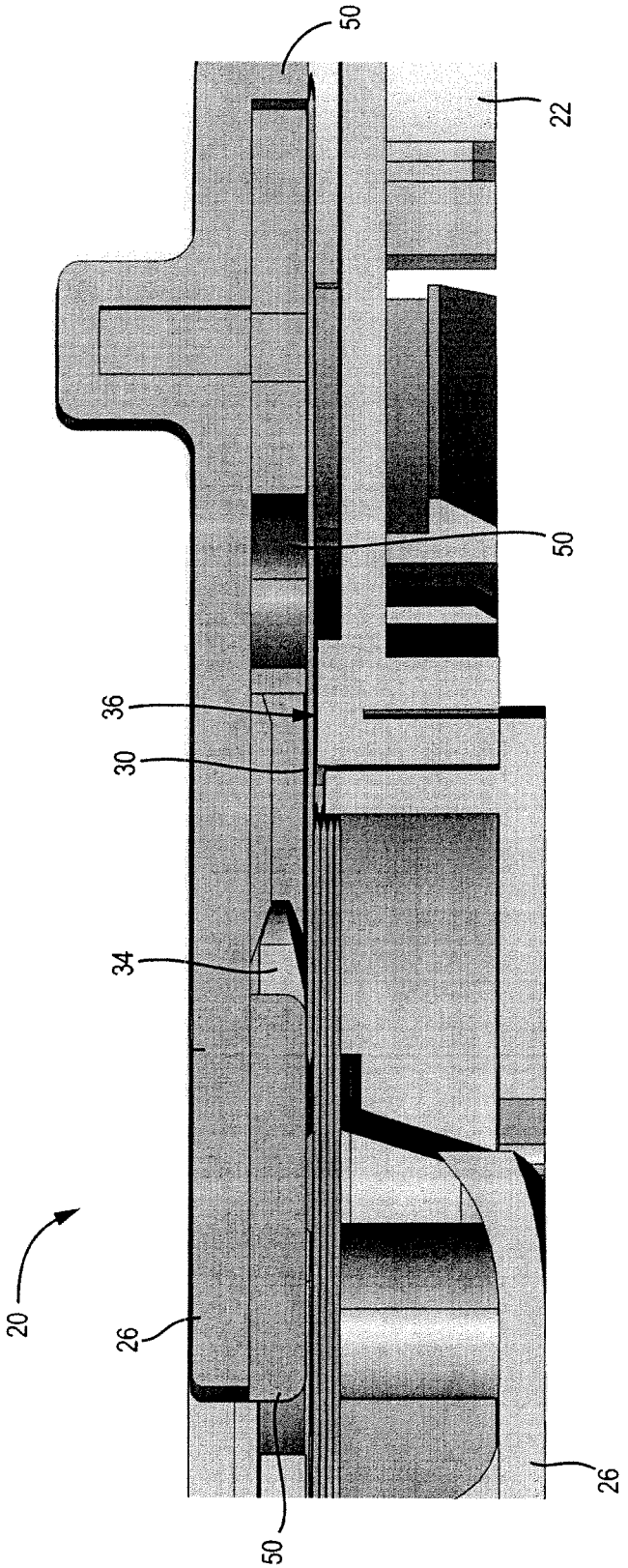


FIG. 7

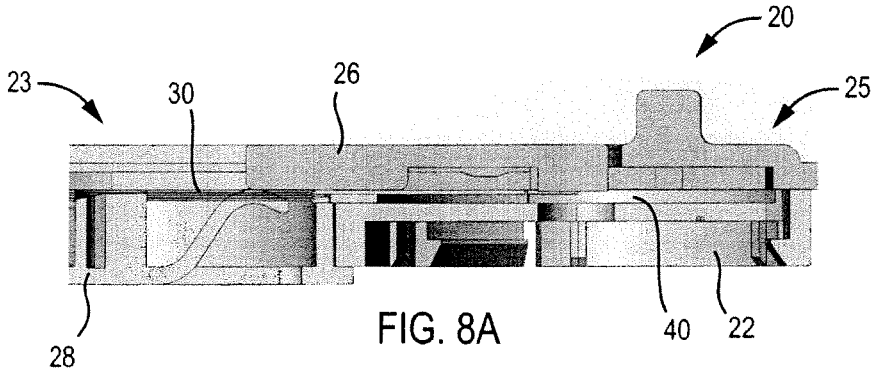


FIG. 8A

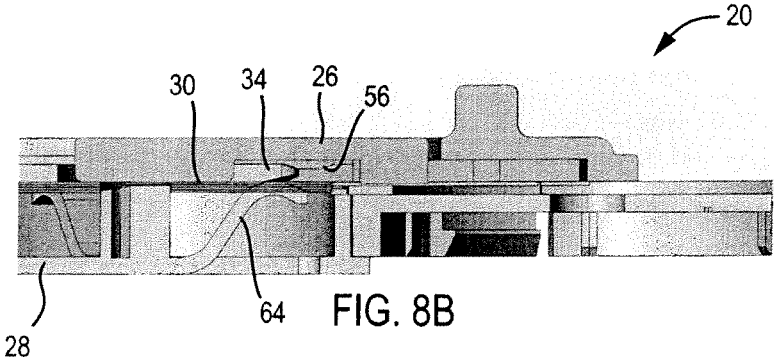


FIG. 8B

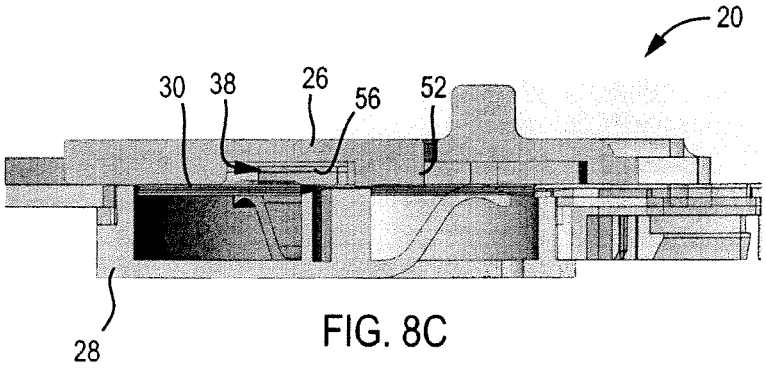


FIG. 8C

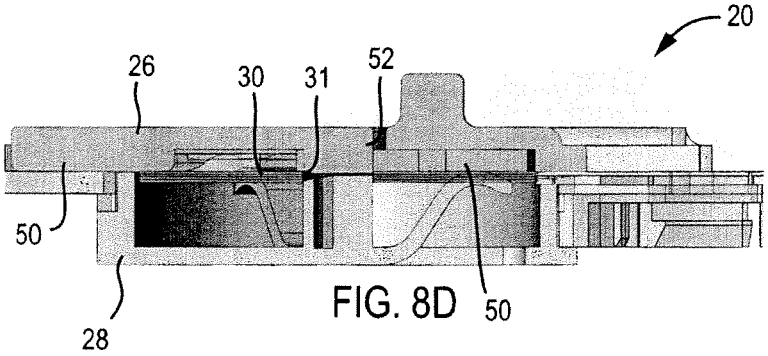


FIG. 8D

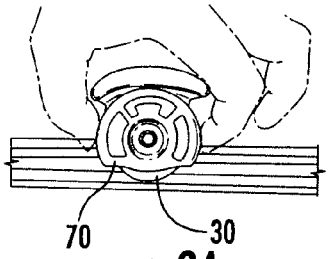


FIG. 9A

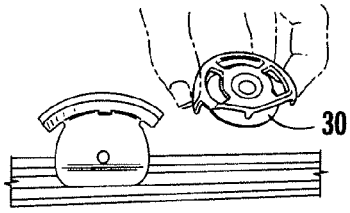


FIG. 9B

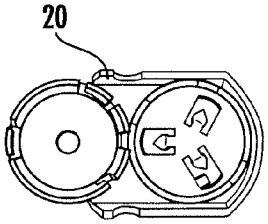


FIG. 9C

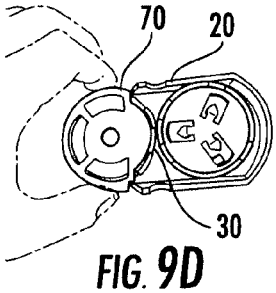


FIG. 9D

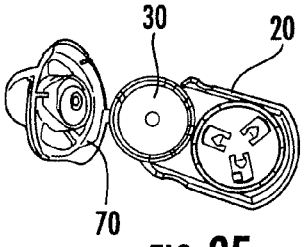


FIG. 9E

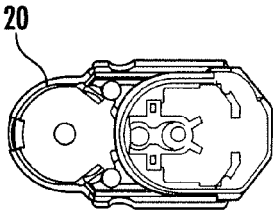


FIG. 9F

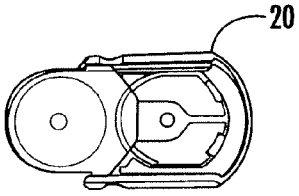


FIG. 9G

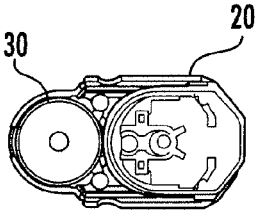


FIG. 9H

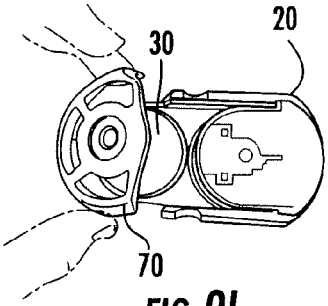


FIG. 9I

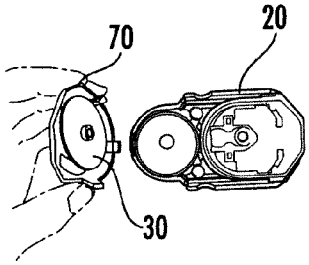


FIG. 9J

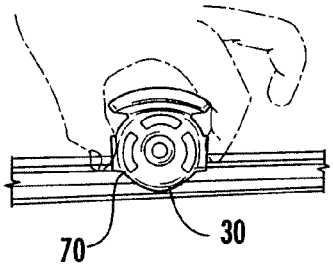


FIG. 9K

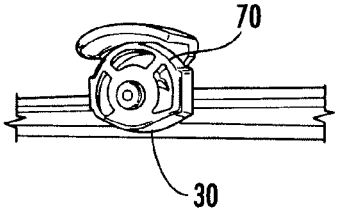


FIG. 9L

# ROTARY BLADE REPLACEMENT APPARATUS AND METHOD

## CROSS-REFERENCE TO RELATED APPLICATIONS

The present application claims priority to U.S. Provisional Patent Application No. 61/738,155, filed Dec. 17, 2012. The contents of U.S. Provisional Patent Application No. 61/738,155 are incorporated herein by reference in their entirety.

## BACKGROUND

The present application relates generally to the field of rotary cutters. The present application relates more specifically to the field of apparatus and methods for replacing a blade on a rotary cutter.

Rotary blades can be difficult to handle because they are relatively thin, with a circular shape in which the entire outer edge is sharpened. The blades may be packaged with coating, such as a light rust-preventative lubricant. When sold in quantity, the blades may be stacked together, and can be difficult to separate because of the coating.

## SUMMARY

One embodiment relates to an apparatus for presenting a replacement blade from a cartridge. The apparatus includes a body with a bottom side and a top side opposite the bottom side; a first position and a second position laterally spaced from the first position; and a trough aligned with the second position. The apparatus further includes a carrier slidably coupled to the body, the carrier movable between the first position and the second position. When the carrier is in the first position, the carrier couples to a blade if a blade is present in the first position. When the carrier is in the second position, the carrier decouples from the blade such that the blade is deposited in the trough, if a blade is coupled to the carrier. When the carrier moves from the first position to the second position, the carrier causes a blade to move from the first position to the second position.

Another embodiment relates to an apparatus for presenting a replacement blade from a cartridge. The apparatus includes a body with a bottom side and a top side opposite the bottom side; a first position and a second position laterally spaced from the first position; at least one finger proximate the first position; and a trough aligned with the second position. The apparatus further includes a cartridge coupled to the first side of the body. The cartridge has at least one rotary blade therein and a spring providing a biasing force against the at least on rotary blade. The apparatus further includes a carrier slidably coupled to the second side of the body and movable between the first position and the second position.

Yet another embodiment relates to a method for replacing a blade of a rotary cutting tool. The method includes providing a body comprising a first position and a second position laterally spaced from the first position, and a trough aligned with the second position; providing a carrier slidably coupled to the body, the carrier movable between the first position and the second position; and providing a blade proximate the first position. The method further includes coupling the carrier to the blade; moving the carrier from the first position to the second position; and depositing the blade in the trough.

The foregoing is a summary and thus by necessity contains simplifications, generalizations, and omissions of detail. Consequently, those skilled in the art will appreciate that the summary is illustrative only and is not intended to be in any way limiting. Other aspects, inventive features, and advantages of the devices and/or processes described herein, as defined solely by the claims, will become apparent in the detailed description set forth herein and taken in conjunction with the accompanying drawings.



## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top perspective view of a rotary blade replacement apparatus with the blade carrier in the second position, in accordance with an exemplary embodiment.

FIG. **2** is a top perspective view of the body of the rotary blade replacement apparatus of FIG. **1**.

FIG. **3** is a bottom perspective view of a blade carrier for the rotary blade replacement apparatus of FIG. **1**.

FIG. **4** is a top perspective view of the cartridge of the rotary blade replacement apparatus of FIG. **1**.

FIG. **5** is a cross-section view of the rotary blade replacement apparatus of FIG. **1** with the blade carrier in the first position, taken along line **5-5**.

FIGS. **6**A-**6**D are sequential cross-section views showing the carrier moving a blade from the first position to the second position, taken along line **6-6**.

FIG. **7** is a detail cross section view of the rotary blade replacement apparatus of FIG. **1** with the carrier in a position intermediate between the first position and the second position, taken along line **7-7**.

FIGS. **8**A-D are sequential cross-section views showing the carrier being moved from the second position to the first position, taken along line **8-8**.

FIGS. **9**A-**9**L are sequential perspective views of a method of replacing a rotary blade in a device utilizing the rotary blade replacement apparatus of FIG. **1**.

## DETAILED DESCRIPTION

Referring generally to the FIGURES, a rotary blade replacement apparatus and components thereof are shown according to an exemplary embodiment.

Before discussing further details of the rotary blade replacement apparatus and/or the components thereof, it should be noted that references to "front," "back," "rear," "upward," "downward," "inner," "outer," "right," and "left" in this description are merely used to identify the various elements as they are oriented in the FIGURES. These terms are not meant to limit the element which they describe, as the various elements may be oriented differently in various applications.

It should further be noted that for purposes of this disclosure, the term "coupled" means the joining of two members directly or indirectly to one another. Such joining may be stationary in nature or moveable in nature and/or such joining may allow for the flow of fluids, electricity, electrical signals, or other types of signals or communication between the two members. Such joining may be achieved with the two members or the two members and any additional intermediate members being integrally formed as a single unitary body with one another or with the two members or the two members and any additional intermediate members being attached to one another. Such joining may be permanent in nature or alternatively may be removable or releasable in nature.

Referring to FIG. **1**, a rotary blade replacement apparatus **20** is shown according to an exemplary embodiment. The apparatus **20** is configured to facilitate the removal and storage of old blades from a device (e.g., a rotary cutting device) and provide a new blade for the device. The apparatus **20** includes a main body **22** with a left end **23** (e.g., left side, left

end portion, etc.) and a right end **25** (e.g., right side, right end portion, etc.), a bottom side **27** (e.g., bottom portion, bottom surface, etc.), and a top side **29** (e.g., top portion, top surface, etc.). A carrier **26** is slidably coupled to the body **22** and is utilized to engage and move a blade **30** of the type depicted in FIG. **4** from the left end **23** to the right end **25**. In an exemplary embodiment, and as represented in FIG. **4**, a stack of blades **30** may be provided in a cartridge **28** that is coupled to the left end **23** of the body **22**. The carrier **26** is configured to index a single new blade **30** from within the cartridge **28** to an installation location on the right end **25** of the body **22**. Once the blade **30** is moved to the right end **25** of the body **22** by the carrier **26**, the blade **30** may be disengaged from the carrier **26** and coupled to the device. The body **22** may further include a location for the storage for old blades removed from the device, as shown in FIG. **5** and discussed in more detail below.

Referring to FIG. **2**, the body **22** of the apparatus **20** is shown according to an exemplary embodiment. The left end **23** of the body **22** includes an opening **32** allowing blades to pass through the body **22** from the bottom side **27** to the top side **29** and a pair of blade stops **34** (e.g., members, fingers, arms, etc.) disposed over the opening. The blade stops **34** are flexible (e.g., resilient, deflectable, etc.) members that are configured to contact the top surface of the topmost blade **30** and control the position of the blade **30** relative to the body **22** and the carrier **26**. The blade stops **34** are coupled to the floor **36** of the body **22** at a first or proximal end and free on a second or distal end opposite the first end to allow the blade **30** to move from the left end **23** to the right end **25**. Each of the blade stops **34** includes a slot or groove **38** configured to receive a protrusion **56** on the carrier, as described in more detail below. The right end **25** of the body **22** includes a trough **40** (e.g., depression, hollow, recess, etc.) sized to receive a blade moved to the right end **25** by the carrier **26**. The trough **40** includes a central opening **42**. A recessed path **46** extends from the trough **40** to the opening to provide a clearance for a blade catch **52** of the carrier **26**.

Referring to FIG. **3**, a bottom perspective view of the carrier **26** is shown according to an exemplary embodiment. The edges of the carrier **26** engage a pair of longitudinal guides or rails **44** extending between the left end **23** and the right end **25**. The rails **44** couple the carrier **26** to the top of body **22** and allow the carrier **26** to slide relative to the body **22**. The underside of the carrier **26** includes one or more bosses **50** providing a contact surface for the top surface of the blade **30**. The carrier **26** further includes a blade catch **52** that extends from the underside farther than the bosses **50** and is configured to engage or catch the blade **30** when it is received in the central opening or blade aperture **31** of the blade **30**. The blade catch **52** is coupled to a flexible arm **54**, allowing the blade catch **52** to be deflected relative to the main body of the carrier **26**. According to an exemplary embodiment, the blade apertures **31** are circular and the blade catch **52** is a cylindrical body configured to be received in the circular aperture **31**. According to other exemplary embodiments, the blade catch **52** may be shaped to fit other blade aperture shapes (e.g., square, hexagonal, etc.). The carrier **26** further includes one or more protrusions **56**. The protrusions **56** align with the corresponding grooves **38** in the blade stops **34**. When contacting the blade stops **34**, the protrusions **56** bias the blade stops **34** downward, away from the carrier **26**. When the protrusions **56** are received in the grooves **38**, the blade stops **34** are allowed to move towards the underside of the carrier **26** and return to a rest position.

As shown in FIG. **5**, the carrier **26** may include a handle **58** (e.g., a ridge, protrusion, grip, etc.) that may be grasped or otherwise engaged by a user to move the carrier **26** relative to the body **22**. In other embodiments, the carrier **26** may have a surface texture (e.g., knurling) to allow a user to engage the carrier **26**. The travel of the carrier **26** relative to the body is limited by fingers **59**, which extend radially outward from the carrier **26**. The fingers **59** are captured by the rails **44** and prevent the carrier **26** from sliding off the body **22**.

Referring to FIG. **4**, the cartridge **28** is shown according to an exemplary embodiment. The cartridge **28** is configured to hold one or more blades **30** and is coupled (e.g., via snap, bayonet, threaded fastener, etc.) to the bottom of the left end **23** of the body **22** such that the blades **30** are aligned with the opening **32** in the left end **23** of the body **22**. According to one embodiment, the cartridge **28** may be pre-loaded with five blades **30** in a stack. The cartridge **28** includes a recess **60** configured to receive the one or more blades **30** and a post **62** extending upward in the recess **60**. The post **62** is received in the blade apertures **31** and aligns the blades **30** with each other and the other components of the apparatus **20** (e.g., the carrier **26**) when the cartridge **28** is coupled to the body **22**. The post **62** limits or constrains the lateral movement of the blades **30**, keeping the blades **30** generally centered within the cartridge **28** such that the sharpened edges of the blades **30** do not become dulled by contact with the side wall of the cartridge **28**. According to an exemplary embodiment, the post **62** comprises a cylindrical body configured for use with a blade **30** with a circular blade aperture **31**. According to other exemplary embodiments, the post **62** may be shaped to fit other blade aperture shapes (e.g., square, hexagonal, etc.). The cartridge **28** further includes one or more biasing features, shown as spring arms **64** in FIG. **4**, that bias the stack of blades **30** towards the body **22** and against a stop face (for example, the blade stops **34**, the contact surfaces of the bosses **50** on the carrier **26**, etc.).

Referring to FIG. **5**, the body **22** may further include a storage area **66** for receiving and retaining old blades. The old blade storage area **66** allows for storage of old blades. The entire apparatus **20** can be disposed of (e.g., recycled) to safely dispose of the stored old blades. In other exemplary embodiments, the blades **30** or the entire storage area **66** may be configured to be removed from the apparatus **20** and disposed. According to another embodiment, the apparatus **20** may be configured such that a user can safely remove the blades **30** from the storage area **66** for disposal of the blades **30**. The body **22** includes retaining features **68** that hold the old blades in the storage area **66**. The storage area **66** is configured to allow for the blades to be added into the storage area **66** directly from the rotary cutting device without a user having to touch the blades. The storage area **66** may be configured to hold any number of blades, which may be chosen to be multiples of the number of blades pre-loaded in the cartridge **28**.

FIGS. **6A-6D** show the apparatus **20** with the carrier **26** being moved from a first position to a second position, moving a blade from the left end **23** of the body **22** to the right end **25** of the body **22**. According to the exemplary embodiment described, the replacement apparatus **20** transfers the new blade **30** from the cartridge **28** to the trough **40** without touching a sharpened edge of the blade **30**. As shown in FIG. **6A**, when the carrier **26** is in the first position and is aligned with the opening **32** in the body **22** and the blades **30** in the cartridge **28**, the blade catch **52** is received in the blade aperture **31** and makes contact with inner walls of the blade aperture **31**. The blade catch **52** extends beyond the bosses **50** by a distance approximately equal to the thickness of the blade **30** to ensure that the blade catch **52** only contacts the inner wall of the blade aperture **31** of the topmost blade **30** (e.g., the blade **30** directly against the bottom face of the blade

stops **34** and the bosses **50**). As shown in FIG. **6**B, the carrier **26** moves the top blade **30** away from the stack of blades **30** held in the cartridge **28** via the engagement of the blade aperture **31** by the blade catch **52** as the carrier **26** is moved away from the first position towards the second position.

As shown in FIG. **6**C and FIG. **7**, the top blade **30** is supported by multiple surfaces. The bottom of the blade **30** may contact a portion of the floor **36** of the body **22**, while the top of the blade **30** may contact the contact surfaces of the bosses **50** extending from the underside of the carrier **26** and the blade stops **34**. As the blade clearance protrusions **56** exit the grooves **38** in the blade stops **34**, the blade clearance protrusions **56** pass over the distal end of the blade stop **34**. The contact between the blade **30** and the floor **36** of the body **22** inhibits downward movement of the blade to decouple the blade **30** from the blade catch **52** of the carrier **26**. In addition, the blade **30** is sufficiently resilient to allow enough distortion (flex) to allow downward deflection of the stops **34** without preventing linear travel of the carrier **26** from the left **23** to the right **25**. As shown in FIG. **7**, the features integral to the body **22** and carrier **26** ensure contact between the blade aperture and the blade catch **52** until the blade **30** is sufficiently above the installation location formed by the trough **40** at the right end **25** of the body **22**, at which time the blade **30** is allowed to fall away from the blade catch **52**, into the trough **40**. In other exemplary embodiments, the carrier may include a deflectable member or portion that can be actuated by a user to push the blade **30** off the blade carrier **52** into the trough **40**.

FIGS. **8**A-**8**E show the apparatus with the carrier being moved from the second position to the first position after depositing a blade **30** in the trough **40** at the right end **25** of the body **22**, as shown in FIG. **8**A. Referring to FIG. **8**B, returning from the second position to the first position, the protrusions **56** engage the distal ends of the blade stops **34**, causing the blade stops **34** to deflect downward from a first or un-deflected state to a second or deflected state. The deflection of the blade stops **34** pushes any blades **30** in the cartridge **28** downward, deflecting the spring arms **64**. The blade catch **52** extends downward farther than the bosses **50**. This downward movement of the blade stops **34** and blades **30** is sufficient to create a clearance for the blade catch **52**, allowing the blade catch **52** to translate over and past the sharpened edges of the blades **30** without being damaged by catching the edge of the blades **30**. Referring to FIG. **8**C, as the carrier **26** is further advanced, the protrusions **56** enter the grooves **38**, allowing the blade stops **34** to return to the first or un-deflected state. The blades **30** are then biased upward by the spring arms **64** and contact the bottom surface of the blade catch **52**. When the carrier **26** is in the first position (shown in FIG. **8**D), located directly above the cartridge **28**, the blade catch **52** drops into the blade aperture **31** to engage the topmost blade **30** in the stack. The length of the blade catch **52** and the difference in heights between the blade catch **52** and the bosses **50** is such that the blade catch **52** engages only the top cutting blade **30** and not the lower cutting blades **30** in the stack.

Referring, to FIGS. **9**A-**9**L, a user may use the replacement apparatus **20** to replace the blade **30** on a rotary cutting tool **70**. Preferably, the replacement apparatus **20** enables a user to replace the blade **30** on a rotary cutting tool **70** without needing to touch the blade **30**. The user may remove or actuate a retaining feature (e.g., nut, clips, etc.) from the rotary cutter **70** (see FIG. **9**A) and orient the cutting tool **70** such that the blade **30** desired to be remove d (e.g., the old blade) decouples from the cutting tool **70** (decouples from the axle or post of the cutting tool) (see FIG. **9**B).

According to one embodiment, when the cutter is in a first position, the old blade decouples from the rotary cutter by the force of gravity. According to the embodiment shown, a portion of the cutting tool **70** may be removed with the blade **30**. In this embodiment, the cutting tool **70** (e.g., the removable portion of the cutting tool **70**) includes a magnet to retain the blade. The replacement apparatus **20** may be turned upside down to access the old blade storage area (see FIG. **9**C), and the blade **30** and any removable portion of the cutting tool **70** to which the blade **30** is coupled to may be aligned with the storage area (see FIG. **9**D). The blade **30** may be engaged by retaining features and held in the storage area while the removable portion of the cutting tool **70** is removed (see FIG. **9**E). In this embodiment, the retaining features are stronger than the magnet incorporated in the cutting tool **70**, and the retaining features cause the decoupling between the cutting tool **70** and the blade **30**. The replacement apparatus **20** may then be turned over (see FIG. **9**F) and actuated as described above to index a new blade from a first side of the apparatus **20** to the second side (see FIGS. **9**F-**9**H). The removable portion of the cutting tool **70** may then be positioned such that the axle passes through the hole in the blade **30** in the trough of the replacement apparatus **20** (see FIG. **91**). According to the embodiment shown, the magnet of the removable portion attracts and retains the blade **30** to the removable portion. According to another embodiment, the cutting tool **70** and the replacement apparatus **20** may be reoriented (e.g., inverted) such that the new blade **30** exits the trough and is supported on the axle of the cutting tool **70** by gravity. The replacement apparatus **20** may then be decoupled and/or removed from the cutting tool **70** (see FIG. **9**J). According to the embodiment shown, the removable portion of the cutting tool **70** may be re-coupled to the cutting tool **70**, and the retaining feature on the cutting tool **70** may be actuated or re-attached (see FIG. **9**K). The cutting tool **70** may then be utilized with a new blade **30** (see FIG. **9**L)

The applicant notes that elements in the figures may be shown inaccurately due to limitations in the CAD software used to create the drawings. For example, the spring arms **64** are shown in an uncompressed or undeflected state in the cross-section views such that they pass through the blades **30**. However, those skilled in the art will understand from the figures and the description herein that the spring arms **64** press against the underside of the bottommost blade held within the cartridge **28** and are deflected downward into the cavity **60** by the blades **30**.

The construction and arrangement of the elements of the rotary blade replacement apparatus as shown in the exemplary embodiments are illustrative only. Although only a few embodiments of the present disclosure have been described in detail, those skilled in the art who review this disclosure will readily appreciate that many modifications are possible (e.g., variations in sizes, dimensions, structures, shapes and proportions of the various elements, values of parameters, mounting arrangements, use of materials, colors, orientations, etc.) without materially departing from the novel teachings and advantages of the subject matter recited. For example, elements shown as integrally formed may be constructed of multiple parts or elements. The elements and assemblies may be constructed from any of a wide variety of materials that provide sufficient strength or durability, in any of a wide variety of colors, textures, and combinations. Additionally, in the subject description, the word "exemplary" is used to mean serving as an example, instance, or illustration. Any embodiment or design described herein as "exemplary" is not necessarily to be construed as preferred or advantageous over other embodiments or designs. Rather, use of the

word "exemplary" is intended to present concepts in a concrete manner. Accordingly, all such modifications are intended to be included within the scope of the present disclosure. Other substitutions, modifications, changes, and omissions may be made in the design, operating conditions, and arrangement of the preferred and other exemplary embodiments without departing from the scope of the appended claims.

The order or sequence of any process or method steps may be varied or re-sequenced according to alternative embodiments. Any means-plus-function clause is intended to cover the structures described herein as performing the recited function and not only structural equivalents but also equivalent structures. Other substitutions, modifications, changes and omissions may be made in the design, operating configuration, and arrangement of the preferred and other exemplary embodiments without departing from the scope of the appended claims.

What is claimed is:

**1**. An apparatus for presenting a replacement blade from a cartridge, comprising:

a body including:

a bottom side and a top side opposite the bottom side,

a first position and a second position laterally spaced from the first position, and

a trough aligned with the second position; and

a carrier slidably coupled to the body, the carrier including a boss configured to engage an opening of a blade, the carrier movable between the first position and the second position;

wherein when the carrier is in the first position, the carrier couples to the blade if a blade is present in the first position;

wherein when the carrier is in the second position, the carrier decouples from the blade such that the blade is deposited in the trough and is configured to receive an axle of a rotary cutting tool, if a blade is coupled to the carrier; and

wherein when the carrier moves from the first position to the second position, the carrier causes a blade to move from the first position to the second position.

**2**. The apparatus of claim **1**, further comprising a cartridge coupled to the body, the cartridge configured to house at least one rotary blade therein.

**3**. The apparatus of claim **2**, wherein the cartridge is coupled to the bottom side of the body.

**4**. The apparatus of claim **2**, wherein the cartridge comprises a spring providing a biasing force against the at least one rotary blade.

**5**. The apparatus of claim **1**, wherein the carrier is coupled to the top side of the body.

**6**. The apparatus of claim **1**, wherein the top side of the body comprises a floor, and wherein the trough is recessed from the floor.

**7**. The apparatus of claim **1**, wherein the boss provides a contact surface for selective contact with a top surface of the blade.

**8**. The apparatus of claim **1**, wherein the body comprises at least one finger proximate the first position, wherein the carrier comprises at least one protrusion, and wherein the protrusion of the carrier causes the finger to deflect from a first state to a second state as the carrier moves from the second position to the first position.

**9**. The apparatus of claim **8**, wherein the finger comprises a groove configured to receive the protrusion, thereby allowing the finger to return from a second state to a first state when the carrier is in the first position.

**10**. The apparatus of claim **1**, wherein the body comprises at least one rail retaining the carrier to the body.

**11**. The apparatus of claim **10**, wherein the rail guides the carrier between the first position and the second position.

**12**. An apparatus for presenting a replacement blade from a cartridge, comprising

a body including:

a bottom side and a top side opposite the bottom side,

a first position and a second position laterally spaced from the first position,

at least one finger proximate the first position, and

a trough aligned with the second position and configured to receive an axle of a rotary cutting tool; and

a cartridge coupled to a first side of the body, the cartridge having at least one rotary blade therein and a spring providing a biasing force against the at least on rotary blade; and

a carrier comprising a boss configured to engage a hole in one of the at least one rotary blade, the carrier slidably coupled to a second side of the body and movable between the first position and the second position.

**13**. The apparatus of claim **12**, wherein the top side of the body comprises a floor, and wherein the trough is recessed from the floor.

**14**. The apparatus of claim **12**, wherein the carrier comprises at least one protrusion, and wherein the at least one protrusion of the carrier causes the finger to deflect from a first state to a second state as the carrier moves from the second position to the first position.

**15**. The apparatus of claim **14**, wherein the finger comprises a groove configured to receive the protrusion, thereby allowing the finger to return from a second state to a first state when the carrier is in the first position.

**16**. The apparatus of claim **12**, wherein the body comprises at least one rail retaining the carrier to the body, the rail guiding the carrier between the first position and the second position.

**17**. A method for replacing a blade of a rotary cutting tool, comprising:

providing a body comprising a first position, a second position laterally spaced from the first position, and a trough aligned with the second position;

providing a carrier slidably coupled to the body, the carrier movable between the first position and the second position;

providing a blade proximate the first position;

coupling the carrier to the blade;

moving the carrier from the first position to the second position;

depositing the blade in the trough; and

positioning the body such that the hole of the blade in the trough receives the axle of a rotary cutting tool.

**18**. The method of claim **17**, further comprising returning the carrier to the first position.

**19**. The method of claim **17**, wherein providing a blade proximate the first position comprises coupling a cartridge having at least one blade therein to the body proximate the first position.

**20**. An apparatus for presenting a replacement blade from a cartridge, comprising:

a body including:

a bottom side and a top side opposite the bottom side,

a first position and a second position laterally spaced from the first position,

a trough aligned with the second position, and

at least one finger proximate the first position; and

a carrier slidably coupled to the body and moveable between the first position and the second position, the carrier including:

a boss configured to engage an opening of a blade, and at least one protrusion;

wherein when the carrier is in the first position, the carrier couples to the blade if a blade is present in the first position;

wherein when the carrier is in the second position, the carrier decouples from the blade such that the blade is deposited in the trough, if a blade is coupled to the carrier;

wherein when the carrier moves from the first position to the second position, the carrier causes a blade to move from the first position to the second position; and

wherein the protrusion of the carrier causes the at least one finger of the body to deflect from a first state to a second state as the carrier moves from the second position to the first position.

**21**. The apparatus of claim **20**, wherein the at least one finger comprises a groove configured to receive the protrusion, thereby allowing the at least one finger to return from the second state to the first state when the carrier is in the first position.

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